

EXHIBIT 5

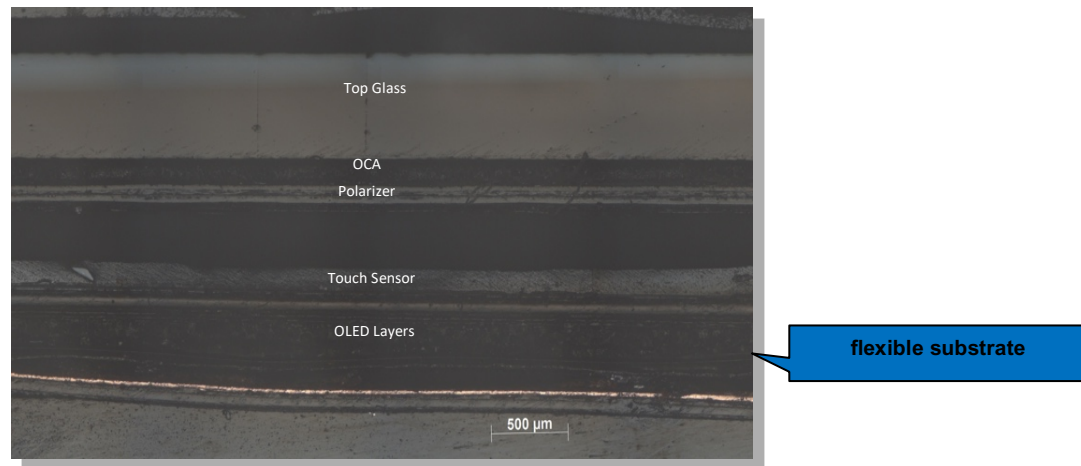
AMENDED EXHIBIT C: P.R. 3-1(C) CHART FOR U.S. PATENT NO. 9,256,311

Plaintiff Solas OLED Ltd. (Solas) provides this chart based upon information that is presently available to it. Solas reserves the right to change or provide more detail to the infringement theories set forth below, based upon information that it learns during this case, subject to the Court's rules and orders.

Definitions:

The term '311 Accused Instrumentalities is defined in Section I.B.3 of Plaintiff Solas OLED Limited's First Amended Disclosure of Asserted Claims and Infringement Contentions served on March 12, 2020.

<i>Claim Element</i>	<i>'311 Accused Instrumentalities</i>
1. An apparatus comprising:	To the extent the preamble is deemed limiting, the '311 Accused Instrumentalities are or contain an apparatus comprising the elements of claim 1, for example as set forth below.
[1a] a substantially flexible substrate; and	The '311 Accused Instrumentalities comprise a substantially flexible substrate. For example, the Samsung Galaxy S9 contains a flexible Organic Light Emitting Diode (OLED) panel that includes a substantially flexible substrate:



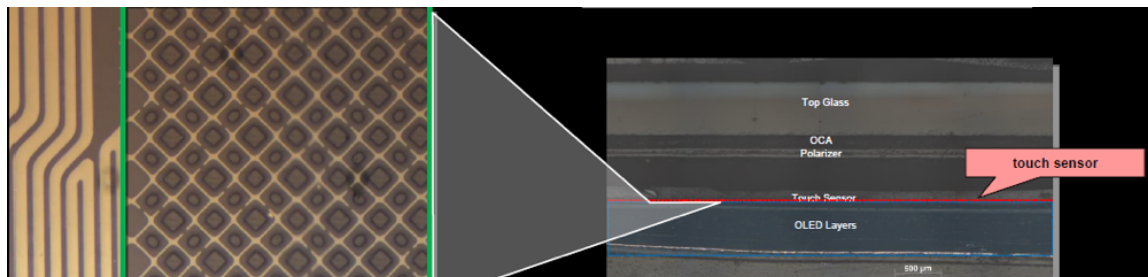
Claim Element

'311 Accused Instrumentalities

Each of the '311 Accused Instrumentalities comprises a flexible OLED panel that includes a substantially flexible substrate, which is illustrated in Defendants' document production in this case. See, for example, SDC0192475; SDC0187097, at SDC0187100; SDC0266699, at SDC0266703; SDC0186915; SDC0263866, at SDC0263913; and SDC0265864, at SDC0265868.

[1b] a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising drive or sense electrodes made of flexible conductive material configured to bend with the substantially flexible substrate,

The '311 Accused Instrumentalities comprise a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising drive or sense electrodes made of flexible conductive material configured to bend with the substantially flexible substrate. For example, the Samsung Galaxy S9 contains a touch sensor layered on top of the flexible OLED panel. The touch sensor includes drive or sense electrodes (the mesh grid illustrated below) made from flexible, conductive metal, configured to bend with the flexible OLED panel:



This is also illustrated in Defendants' document production in this case. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC0176250; and SDC0263866 at SDC0263870-75.

Defendants' GDS files further show the '311 Accused Instrumentalities comprise a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising drive or sense electrodes made of flexible conductive material configured to bend with the

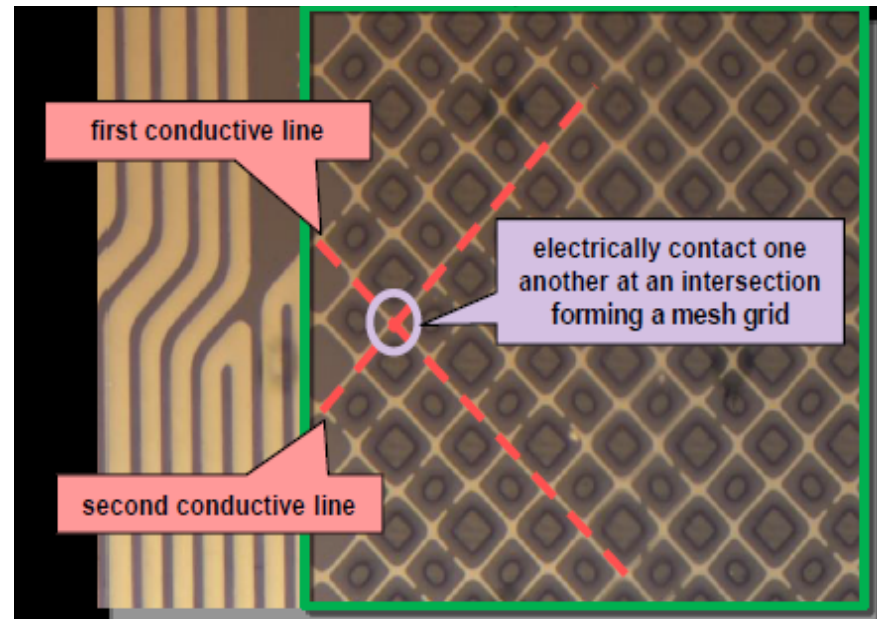
Claim Element

'311 Accused Instrumentalities

substantially flexible substrate. See, for example, SDC_SC_0000006-07; SDC_SC_0000009; SDC_SC_0000011-18; SDC_SC_0000029-35.

[1c] wherein: the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid; and

In the '311 Accused Instrumentalities, the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid. For example, in the Samsung Galaxy S9 the drive or sense electrodes are made from flexible metal mesh. This flexible metal mesh includes conductive metal lines that physically intersect (and thus electrically contact) to form a mesh grid:



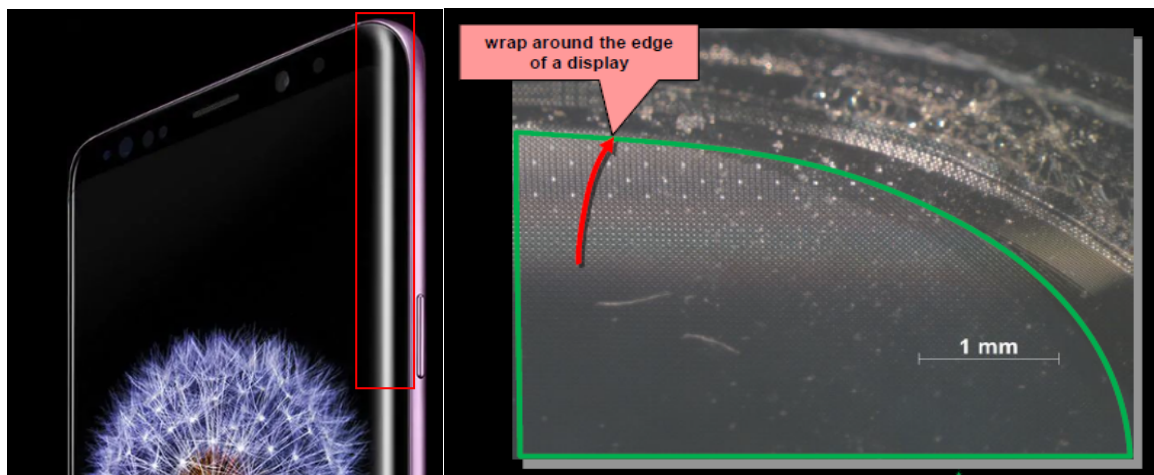
Claim Element

'311 Accused Instrumentalities

Defendants' document production and GDS files further show the '311 Accused Instrumentalities' flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; SDC0263866 at SDC0263870-75; SDC0176242, at SDC176250; SDC_SC_0000006-07; SDC_SC_0000009; SDC_SC_0000011-18; and SDC_SC_0000029-35.

[1d] the substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display.

In the '311 Accused Instrumentalities, the substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display. For example, in the Samsung Galaxy S9 the flexible metal touch sensor layer and the flexible OLED panel substrate wrap around the edge of the phone display:



Defendants' document production further shows the '311 Accused Instrumentalities' substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display. See, for example, SDC0175629; SDC0263878; SDC0265864, at

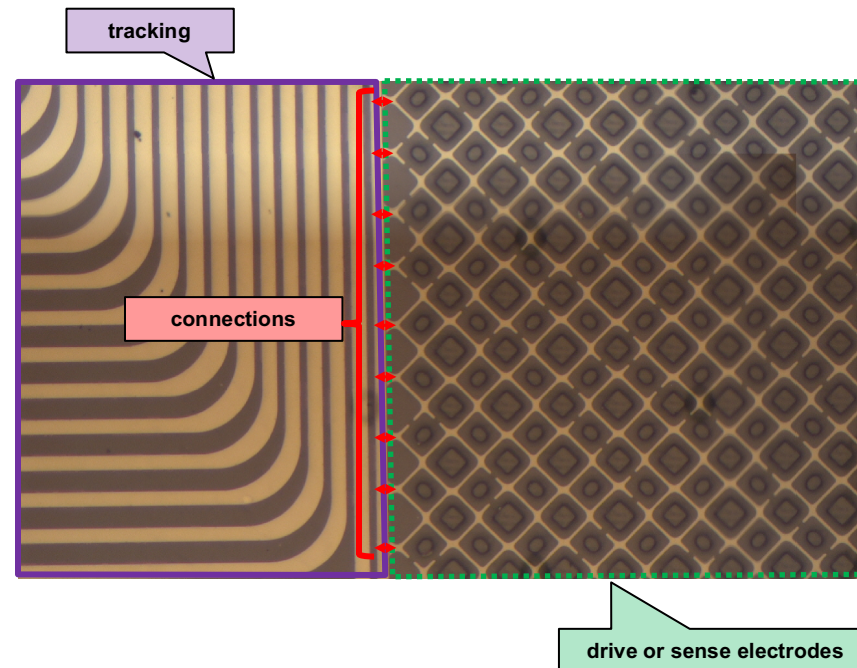
Claim Element

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SDC0265882; SDC0180462, at SDC0180478; SDC0075012; SDC0242606-07; SDC0245105; SEC0000002-08; SDC0254724; SDC0254642-SDC0254684; SDC0068979; SDC0068981-SDC0069007; SDC0071444-SDC0071469; SDC0174408-SDC0174410; SDC0174417-SDC0174419; SDC0174423-SDC0174425; and SDC0174438-SDC0174440.

2. The apparatus of claim 1, wherein the touch sensor further comprises tracking disposed on the substantially flexible substrate configured to provide drive or sense connections to or from the drive or sense electrodes and configured to bend with the substantially flexible substrate.

In the '311 Accused Instrumentalities, the touch sensor further comprises tracking disposed on the substantially flexible substrate configured to provide drive or sense connections to or from the drive or sense electrodes and configured to bend with the substantially flexible substrate. For example, the Samsung Galaxy S9 contains tracking disposed on the substantially flexible substrate, which provides drive or sense connections to or from the drive or sense electrodes:



Claim Element

'311 Accused Instrumentalities

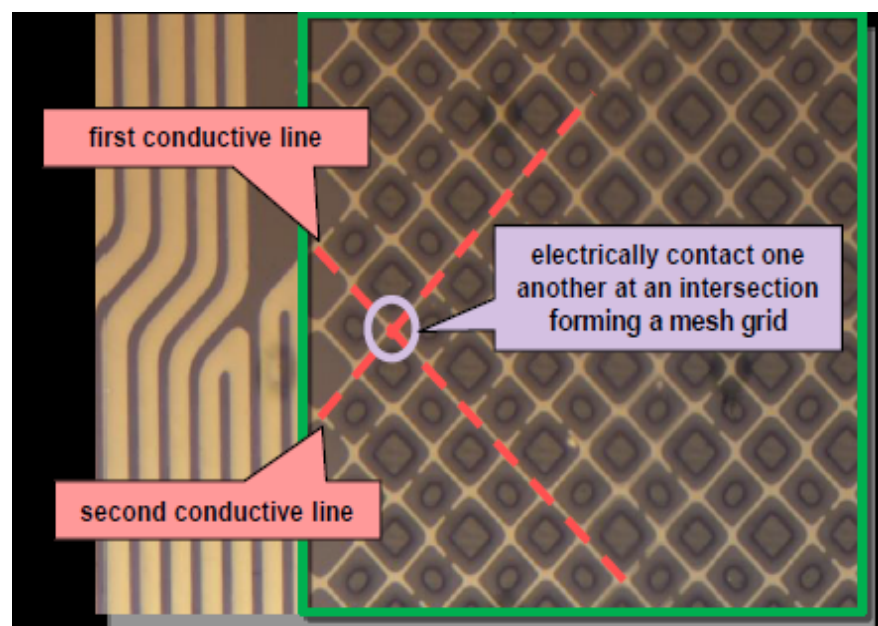
Defendants' document production and GDS files further show the touch sensor of the '311 Accused Instrumentalities' comprises tracking disposed on the substantially flexible substrate configured to provide drive or sense connections to or from the drive or sense electrodes and configured to bend with the substantially flexible substrate. See, for example, SDC0176242, at SDC1076249; SDC0264325, at SDC0264332-41; SDC0175629 at SDC0175635-39; SDC0263886-97; SDC0201663; SDC_SC_0000031-35.

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4. The apparatus of claim 1, wherein the touch sensor comprises:
a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate; or
a two-layer configuration with drive electrodes disposed on the first surface of the substantially flexible substrate and sense electrodes disposed on a second surface of the substrate opposite the first surface.

In the '311 Accused Instrumentalities, the touch sensor comprises a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate; or a two-layer configuration with drive electrodes disposed on the first surface of the substantially flexible substrate and sense electrodes disposed on a second surface of the substrate opposite the first surface. For example, the Samsung Galaxy S9 comprises a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate:



Defendants' document production further shows the touch sensor of the '311 Accused Instrumentalities' comprise a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate; or a two-layer configuration with drive electrodes disposed on the first surface of the substantially flexible substrate and

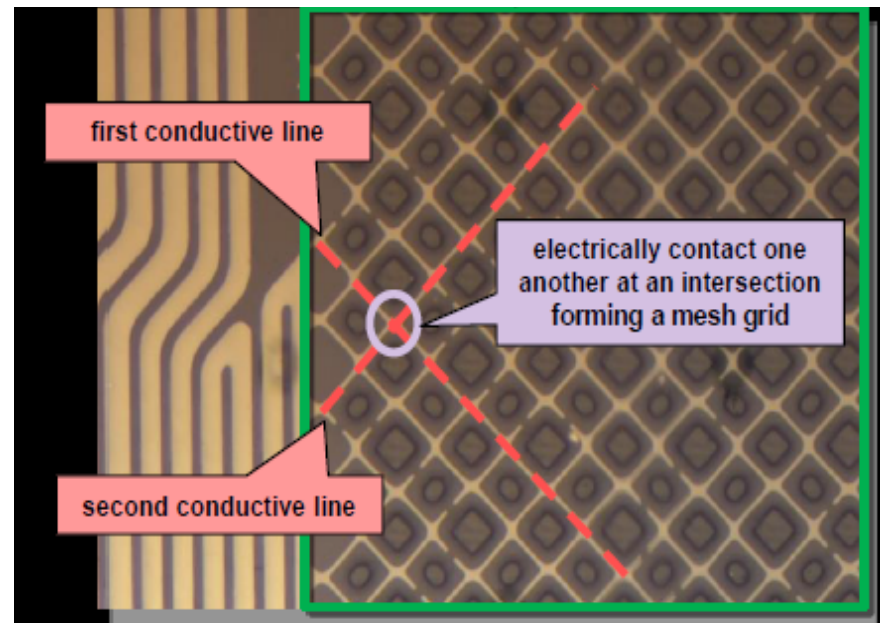
Claim Element

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sense electrodes disposed on a second surface of the substrate opposite the first surface. See, for example, SDC0192475; SDC0187097, at SDC0187100; SDC0266699, at SDC0266703; SDC0186915; SDC0263866, at SDC0263913; SDC0265864, at SDC0265868; SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75.

5. The apparatus of claim 1, wherein the touch sensor is a mutual-capacitance touch sensor or a self-capacitance touch sensor.

In the '311 Accused Instrumentalities, the touch sensor is a mutual-capacitance touch sensor or a self-capacitance touch sensor. For example, the Samsung Galaxy S9 comprises a mutual-capacitance touch sensor:



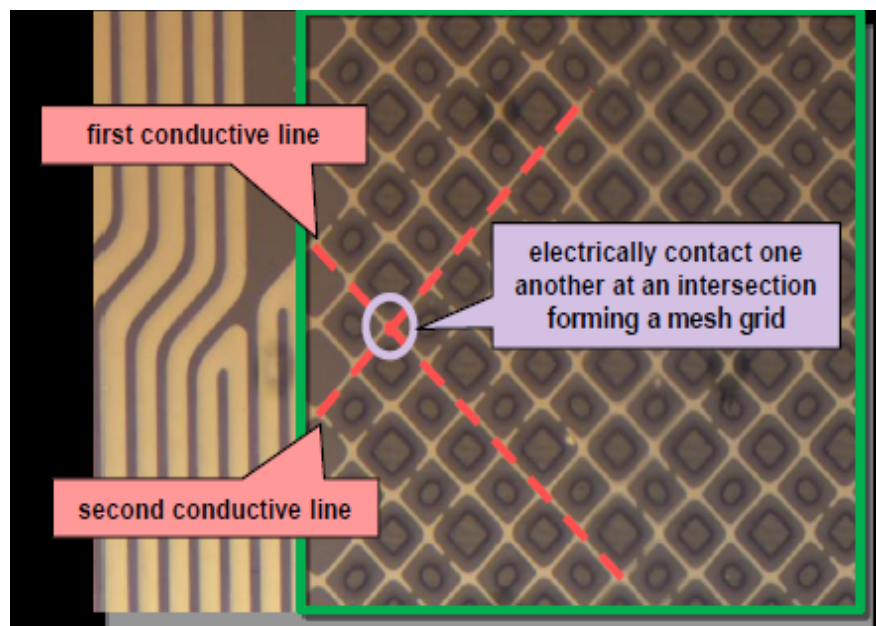
Claim Element

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Defendants' document production further shows that touch sensors of the '311 Accused Instrumentalities are mutual-capacitance touch sensors or a self-capacitance touch sensors. See, for example, SDC0263866, at SDC0263869; SDC0098523, at SDC0099815.

6. The apparatus of claim 1, wherein the touch sensor further comprises electrically-isolated structures made of conductive material comprising a conductive mesh.

In the '311 Accused Instrumentalities, the touch sensor further comprises electrically-isolated structures made of conductive material comprising a conductive mesh. For example, in the Samsung Galaxy S9 the drive or sense electrodes are made from flexible metal mesh. This flexible metal mesh includes electrically-isolated conductive metal lines that physically intersect (and thus electrically contact) to form a mesh grid:

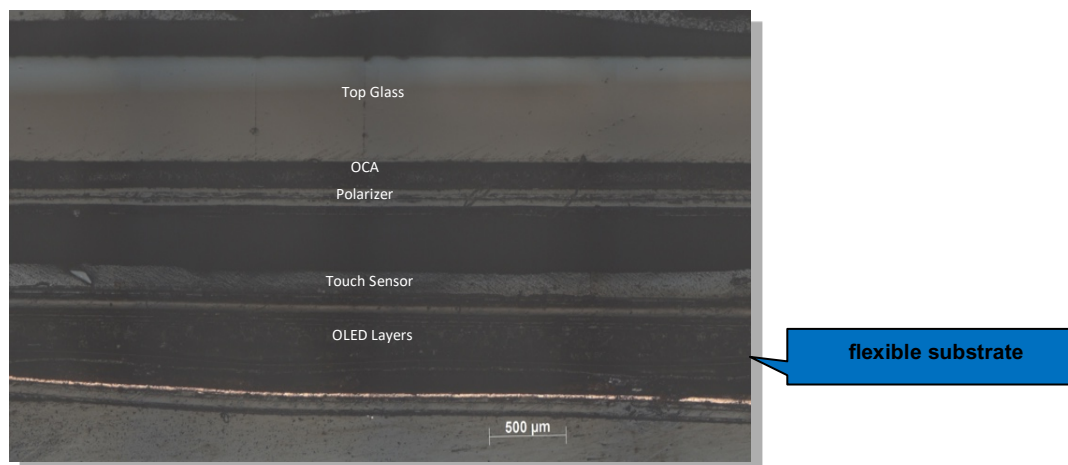


Defendants' document production and GDS files further show that touch sensors of the '311 Accused Instrumentalities comprise electrically-isolated structures made of conductive

Claim Element

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	material comprising a conductive mesh. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75; SDC_SC_000029.
7. A device comprising:	To the extent the preamble is deemed limiting, the '311 Accused Instrumentalities are or contain a device comprising the elements of claim 1, for example as set forth below.
[7a] a substantially flexible substrate;	The '311 Accused Instrumentalities comprise a substantially flexible substrate. For example, the Samsung Galaxy S9 contains a flexible Organic Light Emitting Diode (OLED) panel that includes a substantially flexible substrate:



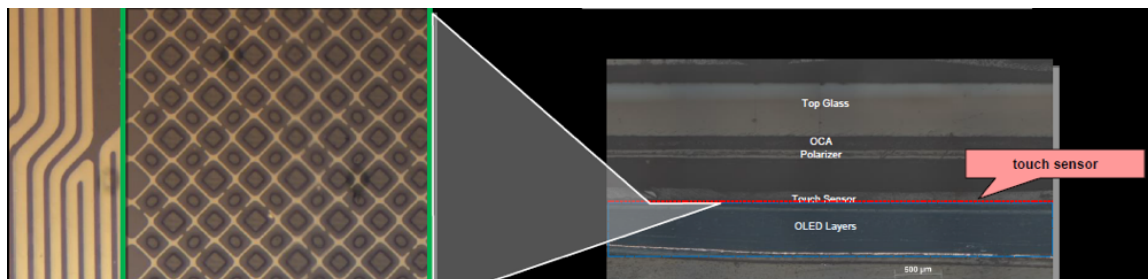
Each of the '311 Accused Instrumentalities comprises a flexible OLED panel that includes a substantially flexible substrate, which is illustrated in Defendants' document production in this case. See, for example, SDC0192475; SDC0187097, at SDC0187100; SDC0266699, at SDC0266703; SDC0186915; SDC0263866, at SDC0263913; and SDC0265864, at SDC0265868

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[7b] a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising a plurality of capacitive nodes formed from drive or sense electrodes made of flexible conductive material configured to bend with the substantially flexible substrate,

The '311 Accused Instrumentalities comprise a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising a plurality of capacitive nodes formed from drive or sense electrodes made of flexible conductive material configured to bend with the substantially flexible substrate. For example, the Samsung Galaxy S9 contains a touch sensor layered on top of the flexible OLED panel. The touch sensor includes drive or sense electrodes (the mesh grid illustrated below) made from flexible, conductive metal, configured to bend with the flexible OLED panel:



This is also illustrated in Defendants' document production in this case. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75.

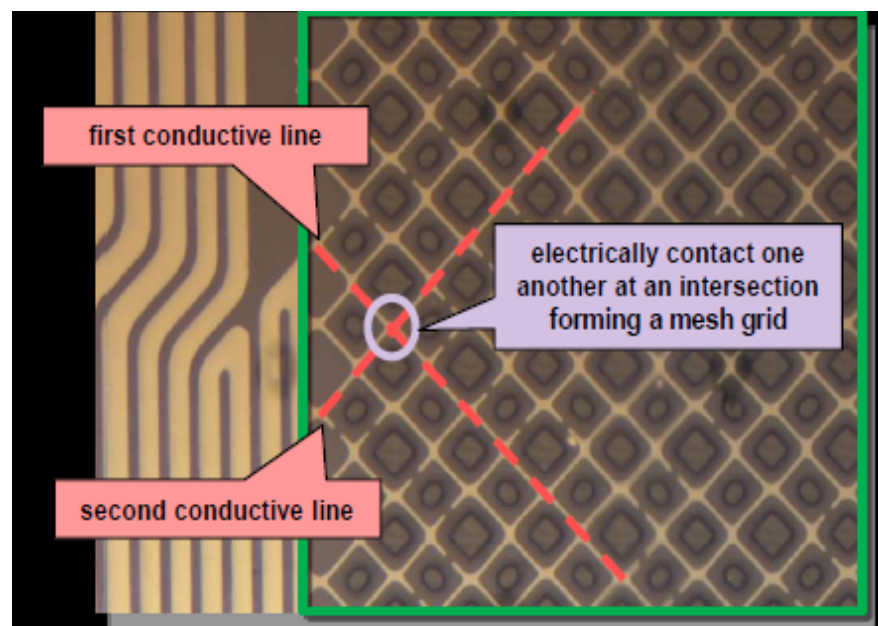
Defendants' GDS files further show the '311 Accused Instrumentalities comprise a touch sensor disposed on the substantially flexible substrate, the touch sensor comprising drive or sense electrodes made of flexible conductive material configured to bend with the substantially flexible substrate. See, for example, SDC_SC_0000006-07; SDC_SC_0000009; SDC_SC_0000011-18; SDC_SC_0000029-35.

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[7c] wherein: the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid;

In the '311 Accused Instrumentalities, the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid. For example, in the Samsung Galaxy S9 the drive or sense electrodes are made from flexible metal mesh. This flexible metal mesh includes conductive metal lines that physically intersect (and thus electrically contact) to form a mesh grid:



Defendants' document production and GDS files further show the '311 Accused Instrumentalities' flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection to form a mesh grid. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; SDC0263866 at SDC0263870-75; SDC0176242, at

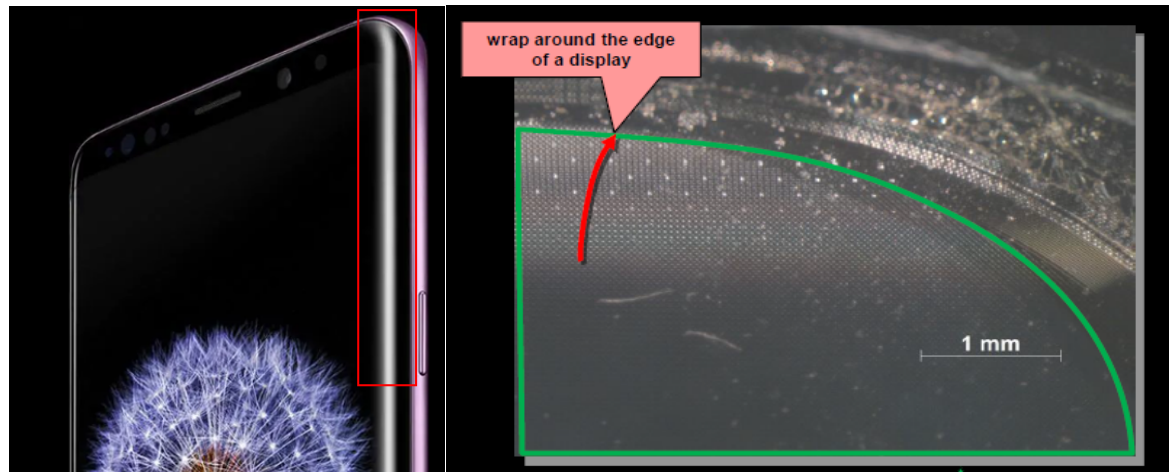
Claim Element

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SDC176250; SDC_SC_0000006-07; SDC_SC_0000009; SDC_SC_0000011-18; and SDC_SC_0000029-35.

[7d] the substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display; and

In the '311 Accused Instrumentalities, the substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display. For example, in the Samsung Galaxy S9 the flexible metal touch sensor layer and the flexible OLED panel substrate wrap around the edge of the phone display:



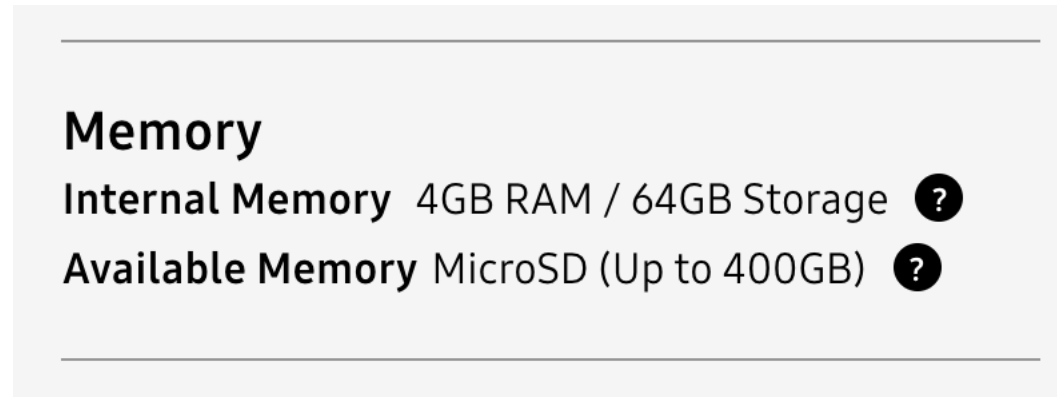
Defendants' document production further shows the '311 Accused Instrumentalities' substantially flexible substrate and the touch sensor are configured to wrap around one or more edges of a display. See, for example, SDC0175629; SDC0263878; SDC0265864, at SDC0265882; SDC0180462, at SDC0180478; SDC0075012; SDC0242606-07; SDC0245105; SEC0000002-08; SDC0254724; SDC0254642-SDC0254684; SDC0068979; SDC0068981-SDC0069007; SDC0071444-SDC0071469; SDC0174408-SDC0174410; SDC0174417-SDC0174419; SDC0174423-SDC0174425; and SDC0174438-SDC0174440.

Claim Element

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[7e] one or more computer-readable non-transitory storage media embodying logic that is configured when executed to control the touch sensor.

The '311 Accused Instrumentalities comprise one or more computer-readable non-transitory storage media embodying logic that is configured when executed to control the touch sensor. For example, the Samsung Galaxy S9 contains internal flash storage:



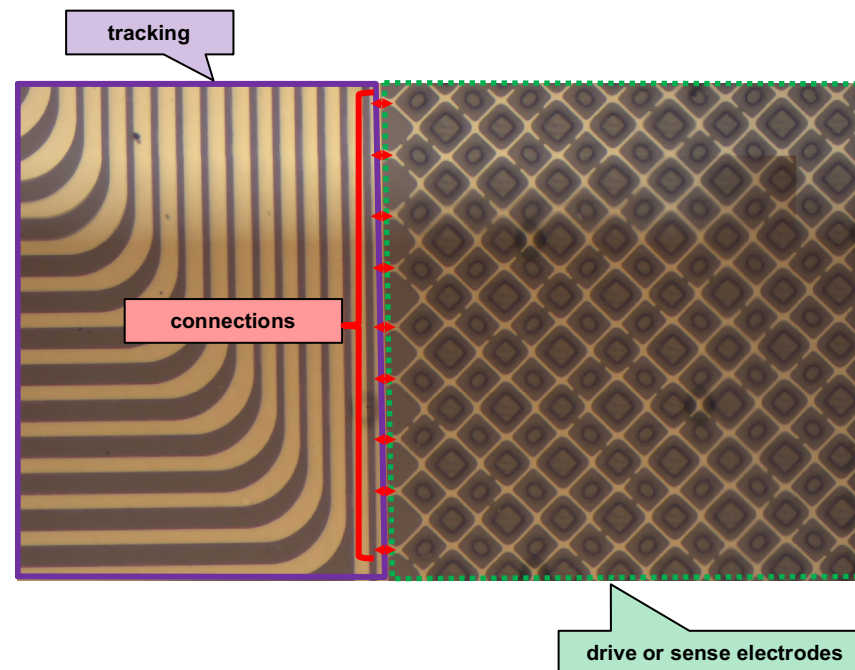
On information and belief, logic that is configured when executed to control the touch sensor is stored in the '311 Accused Instrumentalities on one or more computer-readable non-transitory storage media, such as this internal flash storage.

Claim Element

'311 Accused Instrumentalities

8. The device of claim 7, wherein the touch sensor further comprises tracking disposed on the substantially flexible substrate configured to provide drive or sense connections to or from the drive or sense electrodes and configured to bend with the substantially flexible substrate.

In the '311 Accused Instrumentalities, the touch sensor further comprises tracking disposed on the substantially flexible substrate configured to provide drive or sense connections to or from the drive or sense electrodes and configured to bend with the substantially flexible substrate. For example, the Samsung Galaxy S9 contains tracking disposed on the substantially flexible substrate, which provides drive or sense connections to or from the drive or sense electrodes:



Defendants' document production and GDS files further show the touch sensor of the '311 Accused Instrumentalities' comprises tracking disposed on the substantially flexible substrate configured to provide drive or sense connections to or from the drive or sense electrodes and configured to bend with the substantially flexible substrate. See, for example,

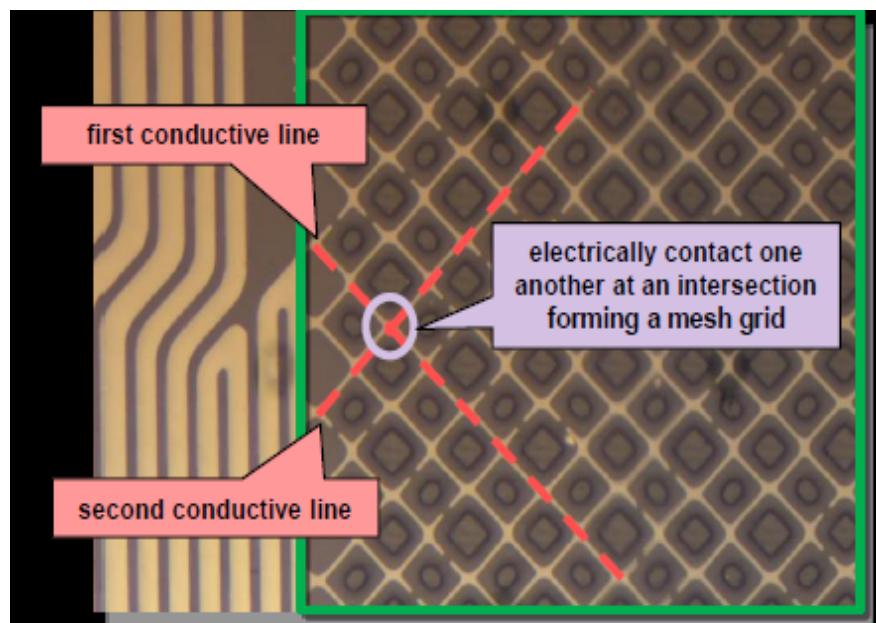
Claim Element

'311 Accused Instrumentalities

SDC0176242, at SDC1076249; SDC0264325, at SDC0264332-41; SDC0175629 at SDC0175635-39; SDC0263886-97; SDC0201663; SDC_SC_0000031-35.

10. The device of claim 7, wherein the touch sensor comprises:
a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate; or
a two-layer configuration with drive electrodes disposed on the first surface of the substantially flexible substrate and sense electrodes disposed on a second surface of the substrate opposite the first surface.

In the '311 Accused Instrumentalities, the touch sensor comprises a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate; or a two-layer configuration with drive electrodes disposed on the first surface of the substantially flexible substrate and sense electrodes disposed on a second surface of the substrate opposite the first surface. For example, the Samsung Galaxy S9 comprises a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate:



Claim Element

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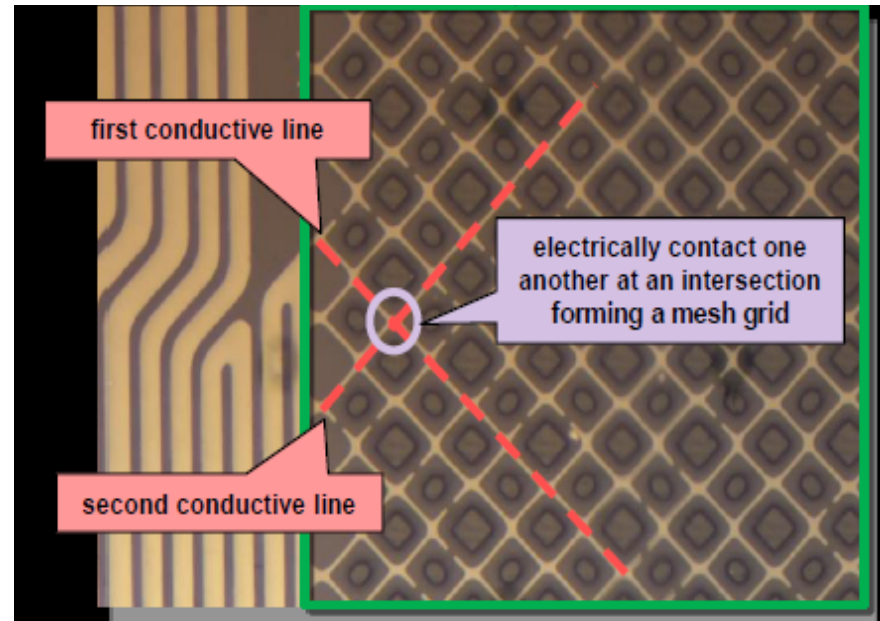
Defendants' document production further shows the touch sensor of the '311 Accused Instrumentalities' comprise a single-layer configuration with drive and sense electrodes disposed only on a first surface of the substantially flexible substrate; or a two-layer configuration with drive electrodes disposed on the first surface of the substantially flexible substrate and sense electrodes disposed on a second surface of the substrate opposite the first surface. See, for example, SDC0192475; SDC0187097, at SDC0187100; SDC0266699, at SDC0266703; SDC0186915; SDC0263866, at SDC0263913; SDC0265864, at SDC0265868; SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75.

Claim Element

'311 Accused Instrumentalities

11. The device of claim 7, wherein the touch sensor is a mutual-capacitance touch sensor or a self-capacitance touch sensor.

In the '311 Accused Instrumentalities, the touch sensor is a mutual-capacitance touch sensor or a self-capacitance touch sensor. For example, the Samsung Galaxy S9 comprises a mutual-capacitance touch sensor:



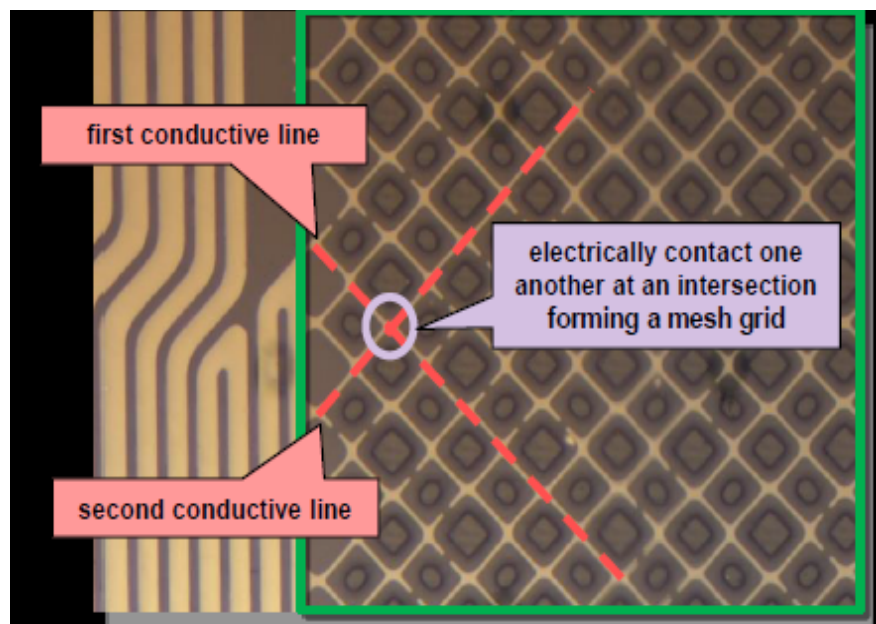
Defendants' document production further shows that touch sensors of the '311 Accused Instrumentalities are mutual-capacitance touch sensors or a self-capacitance touch sensors. See, for example, SDC0263866, at SDC0263869; SDC0098523, at SDC0099815.

Claim Element

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12. The device of claim 7, wherein the touch sensor further comprises electrically-isolated structures made of conductive material comprising a conductive mesh.

In the '311 Accused Instrumentalities, the touch sensor further comprises electrically-isolated structures made of conductive material comprising a conductive mesh. For example, in the Samsung Galaxy S9 the drive or sense electrodes are made from flexible metal mesh. This flexible metal mesh includes electrically-isolated conductive metal lines that physically intersect (and thus electrically contact) to form a mesh grid:



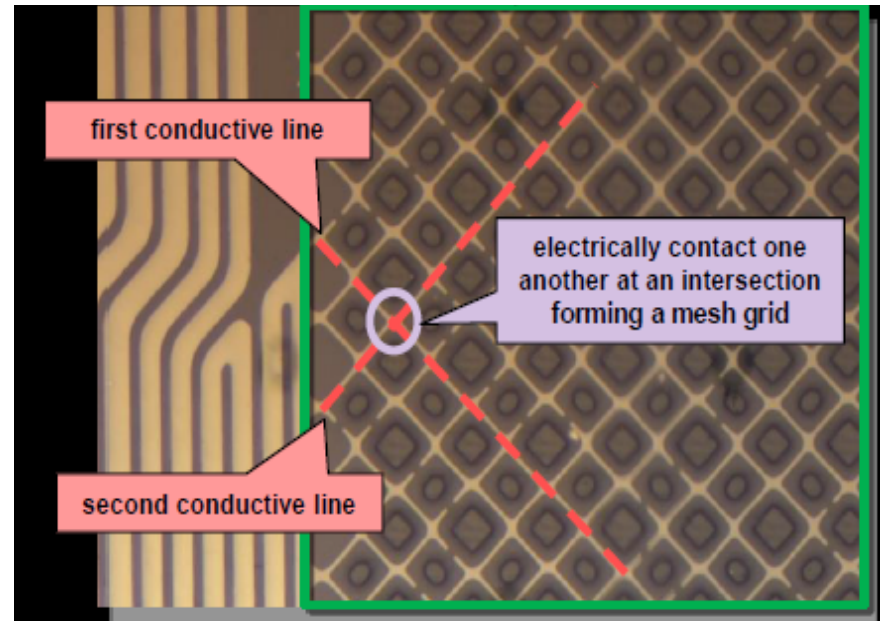
Defendants' document production and GDS files further show that touch sensors of the '311 Accused Instrumentalities comprise electrically-isolated structures made of conductive material comprising a conductive mesh. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75; SDC_SC_000029.

Claim Element

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13. The apparatus of claim 1, wherein the first and second conductive lines are substantially orthogonal to one another.

In the '311 Accused Instrumentalities, the first and second conductive lines are substantially orthogonal to one another. For example, in the Samsung Galaxy S9 the first and second conductive lines are substantially orthogonal to one another:



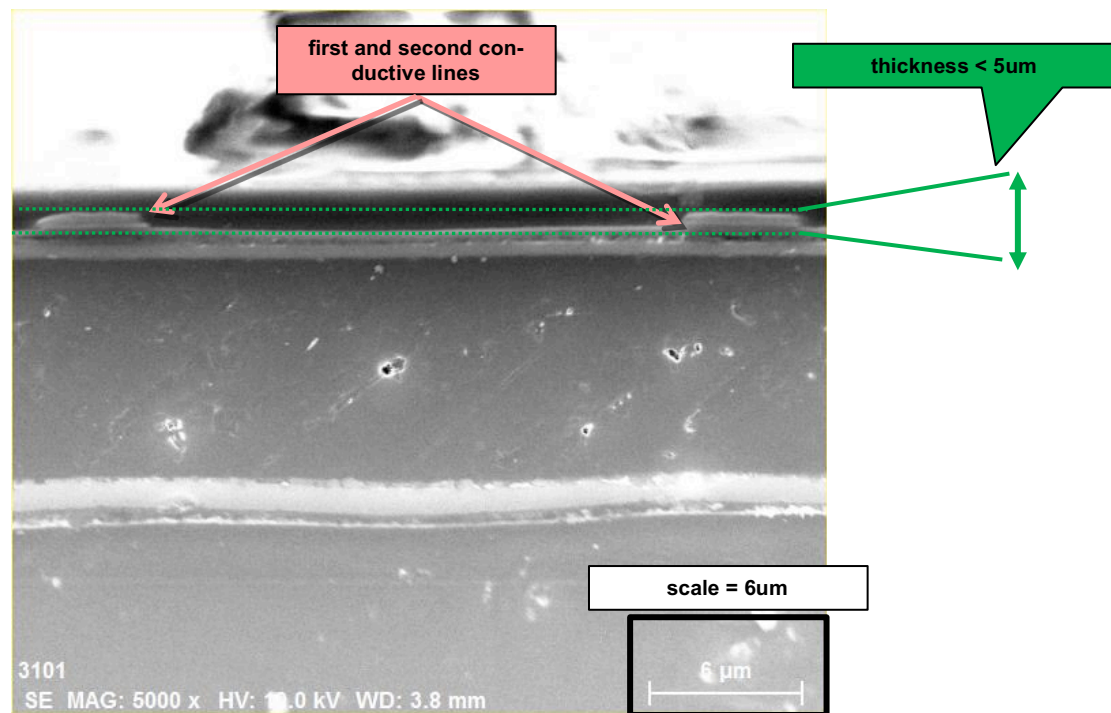
Defendants' document production and GDS files further show the first and second conductive lines are substantially orthogonal to one another. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75; SDC_SC_0000006-07; SDC_SC_0000009; SDC_SC_0000011-18; SDC_SC_0000029-35.

Claim Element

15. The apparatus of claim 1, wherein the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less.

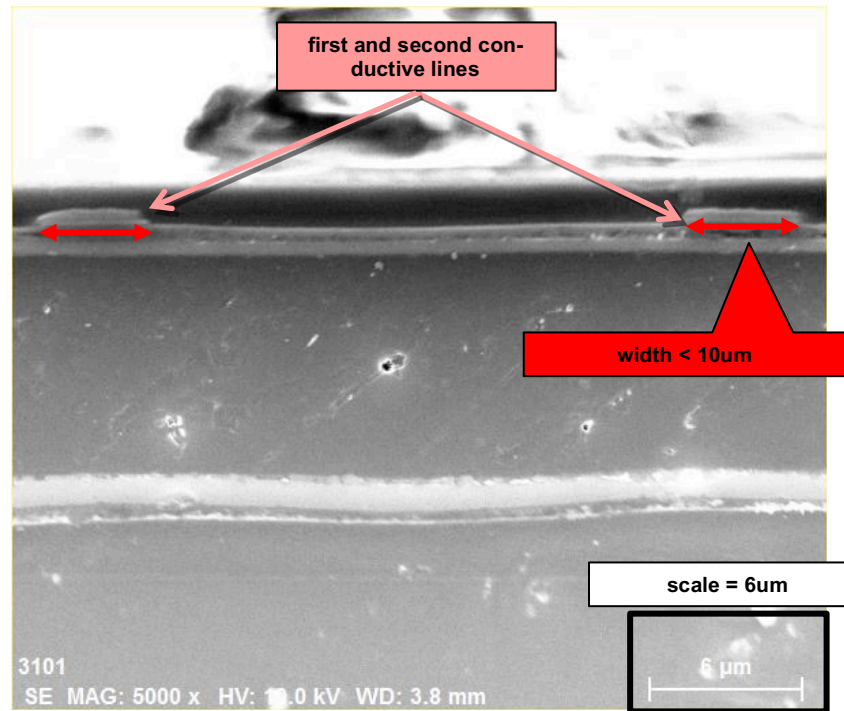
'311 Accused Instrumentalities

In the '311 Accused Instrumentalities, the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less. For example, in the Samsung Galaxy S9 the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less:



Claim Element

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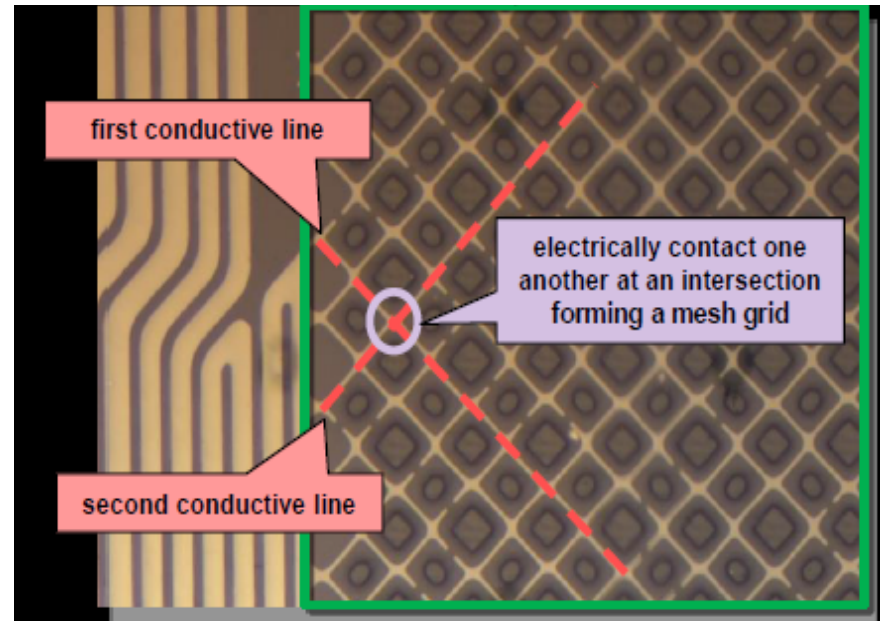
Defendants' document production and GDS files further show the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less. See, for example, SDC200035, at SDC0200043-44; SDC0201663; and SDC0000030.

Claim Element

'311 Accused Instrumentalities

16. The device of claim 7, wherein the first and second conductive lines are substantially orthogonal to one another.

In the '311 Accused Instrumentalities, the first and second conductive lines are substantially orthogonal to one another. For example, in the Samsung Galaxy S9 the first and second conductive lines are substantially orthogonal to one another:



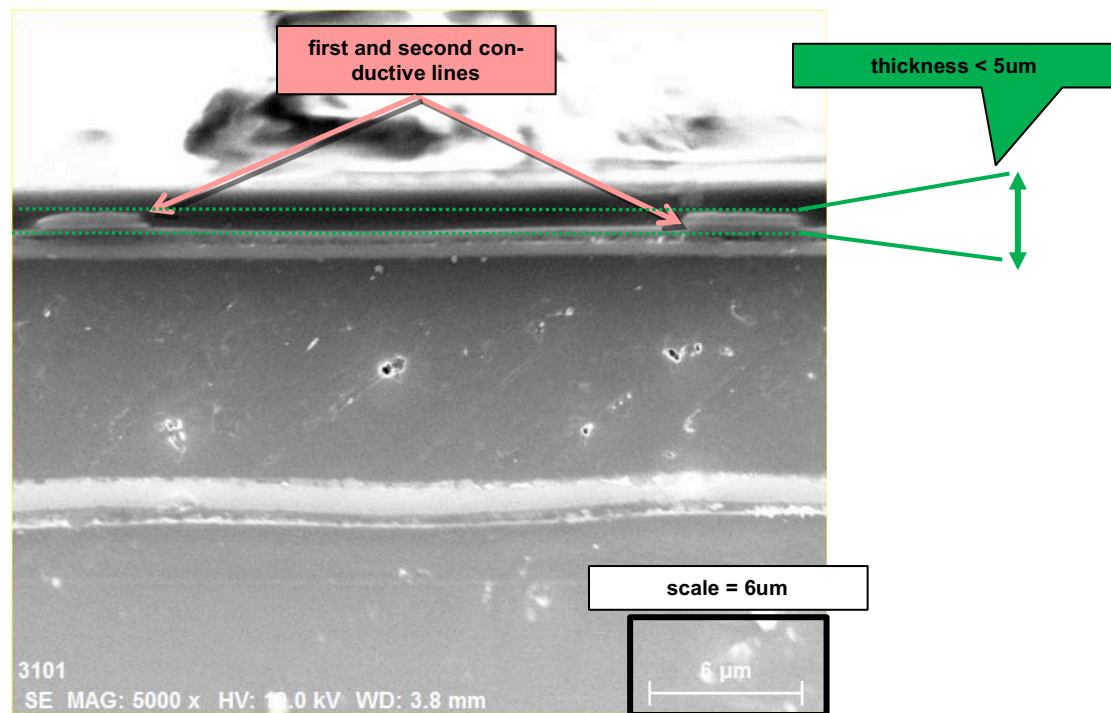
Defendants' document production and GDS files further show the first and second conductive lines are substantially orthogonal to one another. See, for example, SDC0178129, at SDC0178132; SDC0266699, at SDC0266703; SDC0176242, at SDC176250; and SDC0263866 at SDC0263870-75; SDC_SC_0000006-07; SDC_SC_0000009; SDC_SC_0000011-18; SDC_SC_0000029-35.

Claim Element

18. The device of claim 7, wherein the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less.

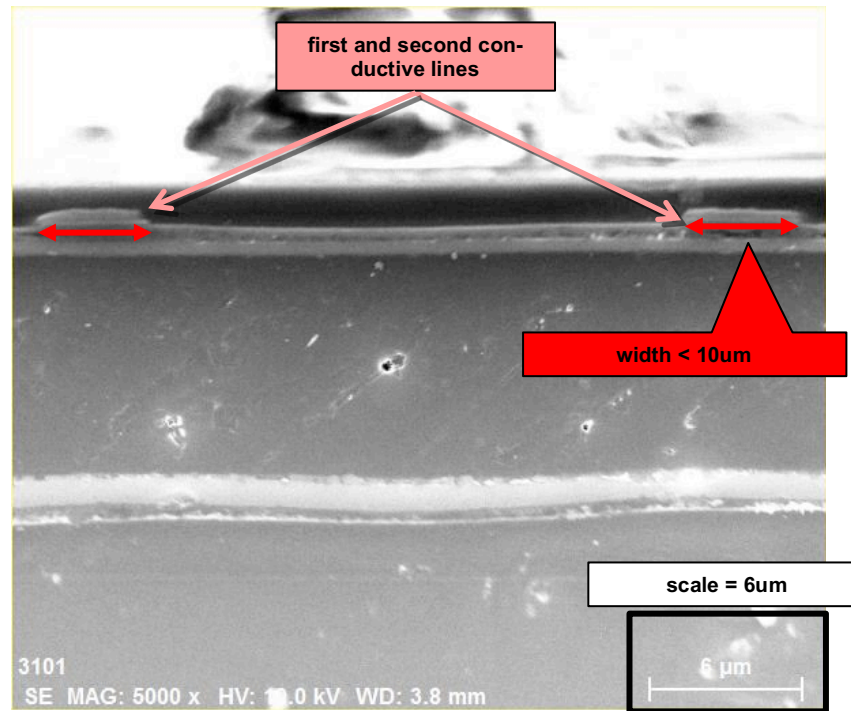
'311 Accused Instrumentalities

In the '311 Accused Instrumentalities, the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less. For example, in the Samsung Galaxy S9 the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less:



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Defendants' document production and GDS files further show the first and second conductive lines are made of fine lines of metal having a thickness of approximately 5 micrometers or less and a width of approximately 10 micrometers or less. See, for example, SDC200035, at SDC0200043-44; SDC0201663; and SDC0000030.